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# NASA Procedural Requirements

**COMPLIANCE IS MANDATORY****NPR 1800.1D**

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Request Notification of Change

 (NASA Only)**Subject: NASA Occupational Health Program Procedure****Responsible Office: Office of the Chief Health & Medical Officer**

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## Chapter 2. Occupational Medicine

### 2.1 Occupational Medicine, General

#### 2.1.1 General

2.1.1.1 The OM clinics shall meet all applicable requirements of Federal and state regulations, professional standards, the NASA Medical Quality Assurance (QA) Program, and other NASA program requirements.

#### 2.1.2 Responsibilities

2.1.2.1 The CHMO shall establish policy requirements for the OM programs.

2.1.2.2 The Director of Health and Medical Systems shall ensure the oversight and advocacy of Center OM programs through regular periodic reviews.

2.1.2.3 The OCHMO shall have the opportunity to review any significant request for a change or relief of OH policy.

2.1.2.4 The Medical COR at each Center shall advocate for funding to meet all programmatic requirements within the scope of service being provided.

2.1.2.5 The Center Medical Director shall be responsible for meeting all Federal, state, and NASA requirements for that jurisdiction.

2.1.2.6 The NASA OH personnel shall notify the CHMO when a Medical Director change occurs at their Center.

#### 2.1.3 Process Description

2.1.3.1 The NASA CHMO and Director of Health and Medical Systems shall be informed immediately of any of the following occupational health-related incidents at NASA Centers from:

- a. Any employee death on duty;
- b. Cluster investigations;
- c. Infectious disease outbreaks;
- d. Automatic External Defibrillator (AED) use and outcome;
- e. Quality of care issues;
- f. Workplace violence;
- g. Regulatory Agency (e.g., Occupational Safety and Health Administration, Nuclear Regulatory Agency) inspection/investigation; and

h. Medical incident or evacuation of civil service employees on official Government foreign travel.

*NOTE: All mishaps must be reported in accordance with NPR 8621.1, NASA Procedural Requirements for Mishap Reporting, Investigating, and Recordkeeping and the appropriate Center Mishap Preparedness and Contingency Plan.*

2.1.3.2 Center OM physicians and other healthcare providers (e.g., nurse practitioners, physician assistants) shall be appropriately credentialed and privileged in compliance with the requirements of the NASA Medical QA program.

2.1.3.2.1 The OM staff shall be trained for the tasks they are required to perform and meet all regulatory and NASA training requirements.

2.1.3.3 Center CORs shall be responsible for advocating adequate budget and resources for OM clinics to provide services.

2.1.3.3.1 If a reduction in budget is anticipated to have a significant impact on the delivery of OM services, the OCHMO shall be informed.

## **2.2 Medical Quality Assurance**

### **2.2.1 General**

2.2.1.1 All NASA OM clinics shall establish a medical quality assurance program that meets these requirements and all of the requirements found in NPD 1850.1, NASA Medical System Quality Assurance; NPR 1850, Quality Assurance of the NASA Medical Care System; and the NASA Medical QA Program Desk Guide found on the Agency OH Web site.

### **2.2.2 Responsibilities**

2.2.2.1 The CHMO shall set medical quality assurance program policy.

2.2.2.2 The Director of Health and Medical Systems shall ensure compliance with OH medical QA policy through regular periodic reviews.

2.2.2.3 The COR is responsible for advocating for sufficient resources to implement a medical quality assurance program.

2.2.2.4 The Center's medical staff is responsible for developing the Center policies and procedures and implementing a medical QA program.

### **2.2.3 Process Description**

2.2.3.1 A comprehensive set of policies and procedures shall be developed to meet the quality of care standards.

2.2.3.1.1 The policies and procedures shall meet all the requirements of the Employee-Directed Principles (Managing Employee Assessment, Employee Care Process, Coordinating Employee Care, Employee Care Rights, and Employee Healthcare Education) and Management-Directed Principles (Facility and Safety Management, Governance, Information Management Services, Infection Control Services, Performance Improvement Management, and Staff Qualifications and Competency) as found on the Agency OH Web site.

2.2.3.2 The OM clinics shall establish and monitor medical QA program metrics to evaluate the program effectiveness.

## **2.3 Disease and Primary Injury Prevention**

### **2.3.1 General**

2.3.1.1 NASA OH programs shall encompass primary prevention, health promotion, and a comprehensive safety program that impacts both individual health and Agency wellness.

### **2.3.2 Responsibilities**

2.3.2.1 Center Occupational Health Program (OHP) personnel shall provide a variety of prevention services such as medical examinations, health and wellness promotions, immunizations, food safety and sanitization services, assorted health screenings, and control of chemical and physical hazards.

### **2.3.3 Process Description**

2.3.3.1 Health Promotion Programs shall be implemented through both Agency-directed and Center-planned activities.

2.3.3.2 The efficacy of primary prevention activities shall be documented with appropriately selected metrics for

benchmarking, continuous improvement of programs, and resource allocation.

## **2.4 Diagnosis and Treatment of Occupational Illness or Injury**

### **2.4.1 General**

2.4.1.1 NASA Centers shall ensure timely diagnosis and treatment of occupational injuries and illnesses and act to minimize the recurrence of a similar problem in other coworkers and those in similar jobs.

### **2.4.2 Responsibilities**

2.4.2.1 The CHMO shall set policy and provide oversight of clinical activities.

2.4.2.2 The Director of Health and Medical Systems ensures the appropriate delivery of diagnostic and treatment service through regular periodic reviews.

2.4.2.3 The Medical Director at each NASA Center is responsible for accurate diagnosis, timely treatment, and appropriate follow up of all occupational injuries and illnesses in employees and for reporting all work-related injuries and illnesses to Center personnel responsible for OSHA record keeping.

2.4.2.4 The Medical Director shall monitor occupational injuries and illnesses for trends and provide statistics to Center management for analysis and corrective action, as appropriate.

2.4.2.4.1 Any developing trends in occupational injury and illness shall be reported by Center management to the CHMO.

2.4.2.5 Medical staff shall coordinate and communicate with NASA Federal Workers' Compensation injury compensation specialists in providing claim-related documents generated at the Clinic, assisting with an explanation of occupational-related illnesses and injuries for which a claim is being made, and making recommendations about employee return-to-work options.

### **2.4.3 Process Description**

2.4.3.1 The following steps shall be followed by all Centers in diagnosing and treating occupational illnesses and injuries.

a. The occupational health history shall be conducted for the assessment of work-related health problems and include total employment and general health histories, with a review of systems and determination of any preexisting conditions to achieve an accurate medical diagnosis.

b. After a health history is taken, an appropriate physical examination is performed with a detailed specific organ or system examination as related to the chief complaint. Laboratory and radiological testing may be used to complement the history and physical examination and to aid in the diagnosis and treatment of the condition.

*NOTE: Pre-approval may be required for procedures not routinely performed in the clinic.*

c. The Medical Director, or qualified designee, when the Medical Director is unavailable, shall review the care of patients for appropriateness with current standards of care, utilizing published clinical practice guidelines.

d. The Medical Director, or qualified designee, shall document any inconsistencies with a work-related injury or illness and report these to a safety representative for further evaluation of the injury mechanism and circumstances.

e. An assessment of the workplace shall be performed by medical, environmental health, and/or safety personnel to reinforce the importance of injury prevention and implementation of approved reasonable accommodation.

2.4.3.2 All occupational health practitioners shall become familiar with employees' work and the environment in which they work. In order to better understand specific medical issues and cases, it may be necessary for the medical staff to visit the workplace to better understand the mechanism of injury and evaluate health, safety, and ergonomic concerns.

## **2.5 Immunizations**

### **2.5.1 General**

2.5.1.1 Maintaining immunity shall be an integral part of NASA's disease prevention and infection control programs to reduce potential health effects related to exposure to vaccine-preventable infectious agents.

*NOTE: The number and types of immunizations required per employee will vary based upon exposure risk.*

### **2.5.2 Responsibilities**

2.5.2.1 The CHMO shall establish an Agency immunization policy.

2.5.2.2 The Director of Health and Medical Systems ensures Center immunization policies are in place and the medication management process is sound, properly documented, and meets NASA quality assurance program elements through regular, periodic reviews.

2.5.2.3 The Center Medical Director shall establish immunization policy and procedures and ensure immunization services are available in such areas as international travel, medical surveillance/job certification, occupational injuries/illnesses, and preventive medicine.

2.5.2.4 The Center Medical Director shall ensure the medication management process is sound, properly documented, and meets NASA QA Program elements, and is in compliance with the most current Centers for Disease Control and Prevention (CDC) recommendations.

### 2.5.3 Process Description

2.5.3.1 Employees with a reasonable risk of occupational exposure to vaccine-preventable diseases such as tetanus, Hepatitis A, or B shall be offered appropriate vaccinations if they lack documented immunity. A declaration form, signed by each employee who declines the Hepatitis B vaccination, is required as an element of prevention against exposure to bloodborne pathogens.

2.5.3.2 Tetanus and diphtheria status shall be reviewed during each patient encounter and immunization given, if the time since the last immunization exceeds the current guidelines, for all employees with tetanus prone injuries at work and those requiring routine boosters.

2.5.3.3 The patient shall be provided an opportunity to discuss any questions about the immunization procedure prior to vaccine administration.

2.5.3.4 An immunization record shall be maintained for each employee and reviewed as part of each patient encounter.

2.5.3.4.1 The record shall reflect documented disease and immunization histories, as well as immunizations administered during employment, and updated at each immunization encounter.

## 2.6 Medical Support to Emergency Preparedness Planning

### 2.6.1 General

2.6.1.1 The exact roles and responsibilities of Center OH disciplines shall be determined by the specific needs at each of the NASA Centers and Facilities.

2.6.1.2 In addition to the Center-wide plan, each clinic shall address emergency preparedness specific to their structure and operations.

### 2.6.2 Responsibilities

2.6.2.1 The CHMO shall provide technical support and policy guidance to the Center Medical and Environmental COR to effectively negotiate and delineate the roles and responsibilities of NASA OH in relation to the Center-specific Emergency Management Plan.

2.6.2.2 The Director of Health and Medical Systems ensures clinics have addressed emergency preparedness specific to their structure and operations through regular periodic reviews.

2.6.2.3 The COR, or designee, shall keep the Director of Health and Medical Systems current on any Center specific emergency events or any significant modifications to the Emergency Preparedness plan as they relate to OH roles and responsibilities.

2.6.2.3.1 The COR shall serve as an advocate for OH disciplines to ensure assigned roles and responsibilities are sound, obtain management support as needed, and keep the lines of communication viable between the stakeholders. In essence, the COR serves as a liaison between the Center Emergency Operations and the OH team.

2.6.2.4 The Center Medical Director, depending on the extent of medical operations engagement in the Center-wide response plan, shall ensure that the clinic staff is appropriately trained and adequate supplies are readily available.

2.6.2.5 Center OM clinics shall have emergency preparedness policies and procedures in place for emergency operation of the clinic and support of the Center Emergency Management Plan.

2.6.2.5.1 The OM clinic roles and responsibilities shall be integrated into the Center Plan.

### 2.6.3 Process Description

2.6.3.1 The CHMO shall provide guidance documents and contribute suggestions to improve the medical response.

2.6.3.2 The Center Medical Director shall:

- a. Establish procedures to meet the medical expectations of the EP plan including, but not limited to, skill mix and number, personnel training and drills, equipment, and supplies.
- b. Establish measures to safeguard and retrieve medical records in paper or electronic format as per Privacy Act, Health Insurance Portability and Accountability Act (HIPAA) and NASA Records Management requirements.
- c. Support other OH disciplines in meeting their respective requirements in disaster management such as supporting the EAP in Critical Incident Stress Management training and debriefing.

2.6.3.3 The COR shall ensure the following elements are accomplished:

- a. The OH roles and responsibilities in the Center-wide plan shall be reasonable and clearly stated;
- b. OH disciplines shall be fairly and consistently represented in the planning process and in drills and simulations with their comments and concerns considered for incorporation into the plan; and
- c. Management support shall be solicited for appropriate funding for supplies, staff training, and skill mix and number.

## 2.7 Pandemic Planning

### 2.7.1 General

2.7.1.1 Each NASA onsite medical clinic shall support the Center in formulating their Continuity of Operations Plan (COOP) Emergency Management Plan.

### 2.7.2 Responsibilities

2.7.2.1 The CHMO is responsible for providing technical support and written policy direction to OH personnel in support of Center Emergency Management Plans.

2.7.2.2 The Director of Health and Medical Systems ensures support is provided to Centers in formulating their COOP Emergency Management Plan and clinics have programs in place to direct OH personnel in support of Center Emergency Management Plans through regular periodic reviews.

2.7.2.3 The Center Medical Director is authorized to provide expert consultation to the COOP manager and Center management on related public health and medical issues.

### 2.7.3 Process Description

2.7.3.1 To ensure appropriate action in a pandemic, each Center clinic shall support formulation of a Center-specific COOP plan which should be designed as an addendum to the Center's Emergency Management Plan. The COOP can be an annex to the master Emergency Management Plan or a stand-alone plan.

2.7.3.2 Communication with HQ Emergency Management shall be maintained throughout all phases.

## 2.8 Physical Examinations

### 2.8.1 General

2.8.1.1 Medical surveillance protocols shall be used at all NASA Centers and Facilities. The Physical Examination Matrix (Appendix C) provides the examination procedure basics of the most routine and specialty examinations performed at NASA Centers and Facilities.

*NOTE: The six categories of physical examinations provided at NASA clinics are listed in Appendix C, Physical Examination Matrix. Due to the potential for changing requirements of an actual examination protocol, the latest content of Agency-provided examinations will be maintained on the Agency OH Web site to ensure currency.*

### 2.8.2 Responsibilities

2.8.2.1 The CHMO shall be responsible for establishing policy, providing requirements and oversight, and reviewing Center physical examination programs.

2.8.2.2 The Director of Health and Medical Systems shall ensure oversight of Center physical examinations through regular periodic reviews.

2.8.2.3 The Center Medical Director shall be responsible for the overall quality of care of all clinic providers.

2.8.2.3.1 In all situations where the decision regarding medical qualification or certification is unclear, the Center Medical Director, or qualified designee when the Medical Director is unavailable, shall review the clinical information and make the final decision.

2.8.2.4 The evaluating physician shall be responsible for interpreting all physical examination test results and determining their significance. If the examinations are not performed onsite, the Center Medical Director, or qualified designee, when the Medical Director is unavailable, reviews the results before final clearance is issued to perform the required task. The evaluating physician is responsible for the preparation of any required "Health Care Professional's Written Opinion" for the pertinent standard, within the specified timeframe.

### 2.8.3 Process Description

2.8.3.1 Placement of employees in the various physical examination programs is determined by job category, workplace surveys, and specific exposure events.

2.8.3.2 Special Administrative Examinations and health maintenance examinations are offered according to Agency and Center policies.

2.8.3.3 Typically, workers are placed in medical surveillance whose jobs are associated with exposures to hazards with regulatory requirements established by OSHA or NASA.

2.8.3.4 Some programs have specific guidance for placement (e.g., asbestos, organophosphates pesticide workers, hearing conservation, and radiation workers).

2.8.3.5 If insufficient monitoring data or no data is available, individuals shall be placed in medical surveillance based on potential exposures and job title. When this occurs, individuals need to be reassessed as work site monitoring data become available.

2.8.3.6 When an employee is no longer actively exposed to a hazard, as confirmed by the supervisor, the employee shall be removed from that medical surveillance group unless the physician determines the employee should remain in a monitoring status.

2.8.3.7 The Center clinics shall meet the protocol requirements for the following job categories:

- a. Specific Potentially Hazardous Exposures;
- b. Hazardous Environments/Workplace Examinations;
- c. Certification Examinations;
- d. Flight Activities;
- e. Special Administrative Examinations; and
- f. Voluntary Health Maintenance Examinations.

2.8.3.8 Physical examinations shall conform to the requirements delineated in the Physical Examination Matrix (Appendix C), the NASA Aviation Medical Certification Standards, and the pertinent Federal regulations.

2.8.3.9 The frequency of the physical examinations varies and includes:

a. Baseline Examinations:

(1) These examinations shall be ideally performed before the employee starts work in a position with a potential for hazardous exposure.

(2) These examinations provide information necessary to determine if the employee is qualified to perform the job. It also provides a baseline against which changes can be compared.

(3) Baseline examinations and certifications shall be performed prior to engaging in any activity that could be hazardous to the employee or other employees working near or adjacent to them or in contact with them.

b. Periodic Examination:

(1) This examination shall be performed periodically during the time that a worker is employed in a job requiring an examination.

(2) The frequency and extent of periodic examinations vary depending on the work being performed, pertinent regulations, findings from previous examinations, the history of exposure, and/or the age and gender of the workers.

c. Variable or Exposure-Determined Examinations:

(1) These examinations shall be conducted in response to a specific hazardous exposure incident and prompt the examination of all individuals with the suspected exposure, not just those already in the surveillance program.

(2) These examinations may vary significantly from routine medical surveillance protocols, are usually exposure specific, and include biological monitoring tests.

d. Exit/Reassignment Examination:



(1) This examination shall be performed when the worker terminates employment or the job position or is permanently removed from a position which has a potential for hazardous exposure.

(2) Documentation of the worker's state of health at the termination of employment or exposure is essential for comparison purposes if the worker later develops medical problems that could be attributed to past occupational exposures.

(3) This examination is not required if a periodic examination has occurred within the prior six months.

2.8.3.10 If a physical examination has been conducted within the previous six months and has been duly recorded in the employee's health record, it may, at the discretion of the examining physician, be accepted in whole or in part as the requested medical examination.

2.8.3.11 A physical examination conducted for one purpose shall be valid for any other purpose within the prescribed validity period if that physical contains the proper data.

2.8.2.11.1 If the examination is deficient in scope, only those tests and procedures necessary to meet the additional requirements shall be performed.

2.8.2.11.2 The results shall be recorded and appropriate approval provided by the examining physician.

2.8.3.12 A clear determination of "Medically Qualified" (or "Medically Certified") or "Medically Disqualified" (or "Not Medically Certified") shall be made.

2.8.3.12.1 As appropriate for the type of examination, any limiting factors or restrictions shall be noted so that reasonable accommodation for employees may be considered by the Agency as required by the Americans with Disabilities Act, the Rehabilitation Act, and NASA Policy on Reasonable Accommodations (NPR 3713.1).

2.8.3.13 If additional tests or other actions are needed for qualification or certification

(e.g., failed vision because corrective lenses are not available, additional tests are needed, or a temporary condition exists like a cold or the flu) and the condition represents a potentially immediate hazard to the employee, fellow employees, or the success of the project/mission, the employee shall be placed on a modified duty status.

2.8.3.13.1 A followup appointment shall be made to either qualify or disqualify the employee.

2.8.3.14 Where no written standard has been established for a function, the provider shall use best medical judgment to determine whether a disqualifying impairment exists. The Medical Director is responsible for review and final recommended work status in these cases.

2.8.3.15 Appeal, redress, second opinions, and challenged decisions shall be handled at the lowest level of authority at the Center.

2.8.3.16 When a Standard Written Medical Opinion is required by regulation, except for lead, bloodborne pathogens, and asbestos where the Federal Regulation (29 CFR 1910) shall be consulted; the following format shall be followed:

- a. A medical condition has [has not] been detected that would place the employee at an increased risk of material impairment of the employee's health from [Specific Hazard] \_\_\_\_\_ exposure-related disease or injury;
- b. There are no limitations on the employee or on the employee's use of personal protective equipment, including respirators;
- c. The employee has been informed of the results of the medical examination and of any medical conditions related to [specific hazard] \_\_\_\_\_ - exposure that would require further explanation, evaluation, or treatment;
- d. The employee has been informed of the results of the medical examination and of any other medical conditions not related to [specific hazard] \_\_\_\_\_ -exposure that require further evaluation or treatment; and
- e. The employee \_\_\_\_\_ is certified for work as \_\_\_\_\_ without limitations [or certified to work with the following job or Personal Protective Equipment (PPE) limitations: \_\_\_\_\_].

Health Care Provider Name: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

2.8.3.17 The employer shall provide a copy of the written opinion to the affected employee.

2.8.3.17.1 Unless otherwise noted, the Standard Written Medical Opinion shall be sent within 14 days of completion of physical examination and receipt of laboratory studies.

## 2.9 Emergency Medical Services

### 2.9.1 Introduction

2.9.1.1 Initial clinic response in an emergency situation shall include the use of a medical defibrillator or an AED, if indicated, in order to stabilize the patient until the emergency transport to appropriate medical facilities arrives.

2.9.1.2 NASA clinics are not designated emergency facilities and do not provide emergency medical care as part of their regular scope of services. After stabilization, Emergency Medical Services (EMS) shall always transport emergent patients to the nearest appropriate emergency facility, never to a NASA clinic.

### 2.9.2 Responsibilities

2.9.2.1 The CHMO shall provide policy guidance and technical support to ensure that all NASA Centers and Facilities have emergency medical response capability that is consistent with published guidelines.

2.9.2.2 The Director of Health and Medical Systems shall ensure appropriate occupational health response in an emergency medical situation through regular periodic reviews.

2.9.2.3 The Center Medical Director shall provide oversight of all NASA and NASA-contracted EMS providers. This oversight involves administrative and medical review of all runs, provision of standing orders, and ensuring that the EMS are adequately staffed and equipped and comply with all NASA, state, and local EMS requirements as practical given contract and locality-specific requirements.

2.9.2.4 The Center Medical Director shall collaborate with Center safety and security leadership to ensure a First Responder Program that includes AED capability according to the Center-wide AED Policy.

### 2.9.3 Process Description

2.9.3.1 The EMS for each Center shall comply with the following minimal requirements:

- a. EMS shall comply with all state and local regulations for ambulance and EMS requirements;
- b. Advanced Life Support capability shall be required with a response time within eight (8) minutes, at least 90 percent of the time;
- c. First responders with AED capability shall have a response time of four (4) minutes or less for most Center personnel; and
- d. The EMS provider at each NASA Center and Facility shall participate in the Center-wide Emergency Response Plan, under the direction of the on-scene incident commander.
- e. EMS providers shall participate in emergency drills and exercises to enable full understanding of their responsibilities within the Emergency Response Plan.

## 2.10 Automated External Defibrillator (AED) Program

### 2.10.1 General

2.10.1.1 All Centers shall have an AED program which implements the requirements contained in this section.

### 2.10.2 Responsibilities

2.10.2.1 The CHMO shall establish the NASA AED policy and program requirements.

2.10.2.2 The Director Health and Medical Systems shall ensure compliance with AED policy through regular, periodic reviews.

2.10.2.3 The Center Medical Director shall provide oversight and medical direction for the Center AED program.

### 2.10.3 Process Description

2.10.3.1 The Center shall complete a formal assessment of the site to determine the appropriate number of AEDs needed, where they should be located, based on population and demographics, layout of facilities, and level of risk in the facility environment, allowing for an optimal response time.

2.10.3.2 The Center shall have a written Center-wide AED program that includes roles and responsibilities, medical equipment and supplies, operational protocols, equipment maintenance, responder training and drill requirements, and a quality assurance plan.

2.10.3.3 The Center AED program shall be integrated with the Center Emergency Response Plan or as an appendix to that plan.

2.10.3.4 The written Center AED program plan shall be reviewed at least annually.



## 2.11 Bloodborne Pathogens

### 2.11.1 General

2.11.1.1 In developing a Center-specific Bloodborne Pathogens (BBP) plan that addresses the requirements of the BBP Standard (29 CFR 1910.1030), the following requirements shall apply:

- a. Center plans may differ based on additional state and local requirements.
- b. The BBP plan must be acceptable to the CHMO and contain the primary requirements of the OSHA BBP Standard, 29 CFR 1910.1030, Bloodborne Pathogens.
- c. The BBP plan shall be reviewed annually, as needed, to ensure currency.

### 2.11.2 Responsibilities

2.11.2.1 The CHMO shall provide guidance and technical support for the development and implementation of the Center-wide BBP plan.

2.11.2.2 The Director of Health and Medical Systems ensures Center occupational health programs have current BBP plans through regular periodic reviews.

2.11.2.3 The COR, or designee, shall require medical personnel to establish a written, Center-wide BBP plan that identifies at-risk workers (those with reasonable risk of exposure).

2.11.2.3.1 The COR, or designee, shall ensure that the Center operations are in compliance with the plan's requirements and the plan addresses the following issues:

- a. A culture of open communication among Directorates and disciplines such as medical, IH, facilities operations, training coordinators, supervisors, and safety personnel;
  - b. Active participation in both the development and implementation phases is essential;
  - c. Consistent documentation and record keeping of all the requirements such as training, medical surveillance and immunization, biohazardous waste, and post exposure prophylaxis; and
  - d. Enforcement of medical confidentiality and security of health information as per Privacy Act requirements and where applicable to the HIPAA.
- 2.11.2.4 The Center Medical Director shall establish policies and procedures to ensure compliance with the BBP plan and that treatment is available for all employees in the event of an actual exposure in compliance with the OSHA BBP Standard. This may include but is not limited to:
- a. Providing oversight for the content and/or delivery of related training classes;
  - b. Provision and documentation of Hepatitis B vaccine to the at-risk employees free of charge;
  - c. Documentation of declination of offer to vaccinate and the process by which the employee may obtain the vaccine at a later date;
  - d. Post exposure prophylaxis plan;
  - e. Medical confidentiality; and
  - f. Issuing the medical opinion letter in compliance with the BBP Standard.

2.11.2.5 The Medical Director and the COR or designee shall jointly establish a process by which they can address any deviations from the Center Plan and review the plan annually in collaboration with the affected Directorates and disciplines.

2.11.2.6 Center OH personnel shall be a resource and assist in writing the Center BBP plan.

### 2.11.3 Process Description

2.11.3.1 The CHMO shall communicate guidance documents via the Agency OH Web site and provide oversight and evaluation of the BBP plan during the review process.

2.11.3.2 The COR, or designee, shall actively participate in the development and implementation of the written Center-wide BBP/Exposure Control Plan(s) and ensure collaboration between the disciplines, especially when more than one contractor or tenant organization is involved.

2.11.3.2.1 The COR, or designee, shall also advocate for a work environment conducive to the success and consistent application of the plan.

2.11.3.3 The plan must address methods of compliance with universal precautions, engineering and work practice

controls, PPE, housekeeping, and bio hazardous waste processing.

2.11.3.4 Medical surveillance and evaluation shall include the offer of Hepatitis B immunization, declination of offer to vaccinate (if applicable), post exposure evaluation and treatment, necessary followup, and issuance of the written medical opinion letter.

2.11.3.5 The Center Medical Director shall specify in the plan the means to protect and train the at-risk employees.

2.11.3.6 The plan must be made accessible to the employees and should serve as the foundation of the respective employer's plan.

## **2.12 Infection Control**

### **2.12.1 General**

2.12.1.1 NASA Centers shall institute a systematic, coordinated, and continuous infection control program that focuses on surveillance, prevention, and control of infections.

2.12.1.2 Center programs shall encompass activities at the direct patient care level and at the patient care support level to reduce risks of nosocomial/clinic-acquired infections in patients.

2.12.1.3 Activities shall also be designed to reduce risks of transmission of infections among civil service personnel, contractors, health care personnel, students, and visitors.

2.12.1.4 Particular focus for infection control shall be placed on direct patient care practices, ancillary services, such as laboratory, radiology, and rehabilitation, support services, such as linen supply, and fitness centers.

2.12.1.5 OH personnel shall use the checklist from the Agency OHP Web site to facilitate implementation and assessment of infection control. The checklist is on the Policies page under Documents, Guidelines, and Checklists.

### **2.12.2 Responsibilities**

2.12.2.1 The CHMO shall establish an infection control program policy which includes oversight and evaluation of OH infection control programs.

2.12.2.2 The Director of Health and Medical Systems shall ensure Centers have current infection control plans through regular, periodic reviews.

2.12.2.3 Center Chief Medical Officers/Medical Directors shall ensure that an infection control program is established and maintained at their Centers. These officials are responsible for ensuring that adequate resources, including time and training, are available to support the program.

2.12.2.4 The infection control program shall be the responsibility of at least one person designated by the Center Chief Medical Officer/Medical Director. That individual is known as the Infection Control Officer (ICO) and is responsible for overseeing the program.

2.12.2.4.1 Specific knowledge and training relevant to infection control shall be sufficient to enable the designated person to keep up to date on regulatory changes.

### **2.12.3 Process Description**

2.12.3.1 The designated ICO shall establish, maintain, and oversee an Infection Control Plan and an Infection Control Committee (ICC) consisting of a physician, a nurse, and any additional staff necessary to manage the program effectively. The ICC should coordinate all activities related to the surveillance, prevention, and control of nosocomial infections.

2.12.3.2 The Center ICO and/or ICC shall develop, implement, and maintain an Infection Control Plan that includes program goals, surveillance activities, infection control guidelines, infection control training, nosocomial/clinic-acquired infections reporting process, program assessment, performance improvement procedures, and program documentation.

2.12.3.3 The Infection Control Plan shall be reviewed based on the proceeding year's infection control data by the ICO/ICC. The review should include infectious waste disposal, shelf life of all stored sterile items, reprocessing of non-disposable items, housekeeping contract, linen services, radiology, and laboratory services.

2.12.3.4 The infection control guidelines and practices address patient care issues such as hand-washing practices, approved antiseptics and disinfectants, sterilization of equipment and disinfecting the clinic, laundry, housekeeping, ventilation, and environmental sampling. There shall be a medical surveillance program for the health care personnel, including immunizations, post-exposure protocols, and work restrictions/accommodations. The Center BBP Plan and a tuberculosis prevention and control plan are also included as part of the guidelines and practices. The infection control guidelines and practices must be reviewed and updated every three (3) years by the ICO/ICC.

2.12.3.5 Infection control issues and data, including infections and communicable diseases, immunization status of health care personnel and tuberculosis skin testing conversion data, shall be reviewed and summarized on a regular basis by the ICO or ICC to determine if trends are being formed. Appropriate action must be taken on all infection control issues or problems and a process for followup established to ensure effectiveness of the corrective action.

2.12.3.6 To ensure compliance with infection control standards, the ICO and/or the ICC shall conduct facility inspections at least annually.

2.12.3.7 The ICO shall ensure that all health care personnel and facilities comply with applicable Federal, state, and local regulations, including notification of the public health agency when patients or health care personnel are treated for infectious or communicable disease.

2.12.3.8 The training of health care personnel on infection control methods is required by Federal (OSHA) regulations. For infection control, the training shall include the following:

- a. Newly assigned health care personnel shall receive infection control training within ten working days of placement in the clinical environment;
- b. Health care personnel shall receive infection control training, including OSHA BBP, universal precautions, and Personal Protective Equipment (PPE) training, annually;
- c. Health care personnel shall receive training when significant regulatory changes occur; and
- d. Health care personnel providing direct care to patients shall receive continuing education on patient care practices to minimize the risk of nosocomial-acquired infections.

2.12.3.9 Personnel shall have copies of training materials, general information, and infection control reference materials available to them. All training documentation and continuing education records must be kept in the health care personnel records in accordance with NASA records management guidelines.

## **2.13 Medical Record Management**

### **2.13.1 General**

2.13.1.1 All NASA Centers shall adhere to the requirements for Medical Record Management established in this section, NPR 1850.1, Quality Assurance of the NASA Medical Care System, Chapter 3, Medical Quality Assurance Records, and the Records Management Plan for the NASA Electronic Health Record System.

### **2.13.2 Responsibilities**

2.13.2.1 The CHMO shall establish medical information management policy and evaluate the Centers' medical information management policy and procedures.

2.13.2.2 The Director of Health and Medical Systems shall periodically conduct a review of Centers' medical records management policies and procedures through the regular review process to ensure the Electronic Health Record System (EHRS) meets Privacy Act and NASA records management requirements.

2.13.2.3 The OH COR is responsible for ensuring that the clinic has proper resources and systems in place to meet the Agency's requirement for management of medical information and record retention.

2.13.2.4 The Center Medical Director shall ensure the clinic has a medical information management policy that encompasses the requirements of the Records Management Plan for the NASA Electronic Health Record System.

2.13.2.5 Center clinical personnel shall maintain accurate and complete patient medical records and ensure the security and confidentiality of those records.

### **2.13.3 Process Description**

2.13.3.1 Each Center shall use the designated Agency EHRS in accordance with NASA records management requirements unless an OCHMO waiver is approved.

2.13.3.1.1 In all cases, electronic health data shall be made available to the Agency electronic health database.

2.13.3.2 An individual medical record shall be established and maintained beginning with the first patient encounter.

2.13.3.3 The medical record documentation shall include sufficient information to identify the patient, patient medical history, reason for visit, subjective and objective findings, assessment, and plan written in the Subjective Objective Assessment Plan format. In addition, the medical record may include:

- a. Patient demographics;
- b. History and medical questionnaires;

- c. Work-related injury and illness reports;
- d. Environmental hazards or conditions;
- e. Occupational exposures and incidents;
- f. Summary Sheet;
- g. Consultation reports;
- h. Signed informed consent;
- i. Laboratory test and x-ray results;
- j. Immunizations;
- k. Medication(s) provided or prescribed;
- l. Allergies; and
- m. Referrals to community healthcare providers.

2.13.3.4 Medical records shall be maintained and safeguarded in accordance with all Federal and state laws or regulations, NASA's record requirements, and this NPR, including the following:

- a. Occupational Safety and Health Administration (OSHA); and
- b. NPR 1850.1, Quality Assurance of the NASA Medical Care System.

2.13.3.5 The Center shall have medical record policy and procedures addressing access to medical records, release of records and to whom, copying of records, and privacy and confidentiality in compliance with 14 CFR Part 1212 and other applicable Federal and state laws and regulations.

2.13.3.6 The Center shall have a policy on managing sensitive health information per Privacy Act requirements.

2.13.3.6.1 The policy shall address the separate storage of those records and/or coding to preclude direct identification of the patient. Sensitive health information includes all EAP records, mental health, chemical dependency, sexually transmitted diseases, and drug and alcohol test results.

## **2.14 Shift Work and Balancing Work-Rest Cycles**

### **2.14.1 General**

2.14.1.1 The potentially detrimental impacts of unusual shifts and prolonged work-times shall be given a high priority by all NASA Centers to prevent worker psychological and physiological stress and undesirable outcomes. Safe work practices that minimize human error factors, especially fatigue, require safe work-rest cycles and shift scheduling.

2.14.1.2 Work-rest cycles shall take into consideration and make proper allowances for the work environment, including temperature extremes. The processes presented below are provided to ensure safe work practices and mission success.

2.14.1.2.1 In situations where there is conflict between NPR 1800.1 and Aviation operations policies, the latter shall supersede the requirements contained herein.

2.14.1.3 The criteria are provided for Critical and Non-Critical positions as follows:

a. A Critical Position is one in which the worker's job performance can directly impact ground safety, flight safety, or mission success. This may include, but is not limited to, workers who:

- (1) Deal directly with flight hardware, software, or ground support equipment;
- (2) Have authority to make decisions regarding flight hardware or software processing;
- (3) Are involved in launch and landing activities;
- (4) Work in ground systems with physical or functional interface with flight systems;
- (5) Work with hazardous sequences or procedures; and
- (6) Work on systems with minimal or no checks and balances related to employee decisions or actions.

*NOTE: Personnel who are in Critical roles on a part-time basis will be considered to be in a Critical Position on a full-time basis for purposes of work-rest cycle limitations.*

b. All other positions are considered to be Non-Critical.

## 2.14.2 Responsibilities

2.14.2.1 Center Directors and Senior Managers shall ensure that policies regarding work-rest cycles, implementation of work-rest cycles, maximum work limits, and shift schedules as required for routine and extended or emergency work scenarios are adhered to.

2.14.2.1.1 These policies shall also establish those positions designated as Critical for each Center or Facility.

2.14.2.2 The CHMO shall issue relevant policy and directives and provide supporting advocacy and resources.

2.14.2.3 Center OH staff shall provide assistance in policy development and professional consultation to managers and supervisors regarding requirements for standard and prolonged work schedules and work excesses. Supervisors should seek out fatigue risk management expertise, as necessary.

2.14.2.4 Managers and supervisors shall ensure that all duty hours are recorded and counted toward the maximum work periods identified below.

2.14.2.4.1 Managers and supervisors shall also report any work-rest cycles that are not within the established policies to the designated management level for risk assessment and approval of deviations, given the current work requirements. Work time data must be available for review.

2.14.2.5 Center EH Managers assure that potential exposures are appropriately evaluated and that OELs are adjusted, as necessary, from the 8-hour time-weighted average to reflect actual conditions and work shifts.

## 2.14.3 Process Description

2.14.3.1 For Non-Critical Positions, employees shall not work in excess of the following maximum work times (MWT):

- a. 12 consecutive hours (16 consecutive hours in emergency situations with approval);
- b. 60 hours during a seven (7) day work week;
- c. Seven (7) consecutive days without at least one (1) full day off;
- d. 240 hours during a four (4) week period; and
- e. 2,500 hours during a rolling 12-month period.

2.14.3.2 Deviations from these maximum work times require approval by a designated supervisor.

2.14.3.3 For Critical Positions, employees shall not work in excess of the following MWTs:

- a. 12 consecutive hours (16 consecutive hours in emergency situations with approval by a supervisor capable of evaluating the human factors risk level for the Critical role. Only during a Center or Program Declared Emergency may 16 consecutive hours be exceeded with high level of designated approval);
- b. 60 hours during a 7 day work week\*;
- c. Seven (7) consecutive days without at least 1 full day off\* (deviations may be pre-approved at a high level for up to 18 consecutive days with 2 full days off required after the extension period);
- d. 240 hours during a 4-week period\*; and
- e. 2,500 hours during a rolling 12-month period\*.

*NOTE: The asterisks (\*) denotes pre-approval is required for deviations by a designated supervisor after consideration of human factors safety issues for the Critical Position.*

2.14.3.4 Overtime may be required because of a problem during operation or because of an extended work process. In either case, overtime shall not exceed the stated guidelines.

2.14.3.5 For Center or Program Declared Emergencies, maximum work times shall only be exceeded with approval at the Deputy Center Director level or equivalent designee.

2.14.3.5.1 Each Center shall have the capability to cover unexpected absences satisfactorily without having individuals work more than 12 hours per day.

2.14.3.6 Emergency or extremely unusual circumstances can require work performance essentially at endurance capacity. This shall be invoked only for life-threatening emergencies, natural disasters, mass casualty accidents, or war.

2.14.3.7 Workers performing prolonged routine shifts shall receive training related to the adequate sleep times



required between shifts.

2.14.3.8 The calendar year, the week, and the calendar day (which changes at midnight) shall be used for work time evaluation and maintenance of accurate time records.

2.14.3.9 Under no circumstances shall an employee be required to work such that there is not at least eight (8) hours off duty between shifts. A minimum of ten (10) hours off duty is preferred and 12 hours or more is optimal to accommodate employee commute time and domestic and sleep needs.

2.14.3.10 When the 8-hour period is shifted within the 24-hour day-night cycle (shift work), compensatory time must be allowed for circadian rhythms to adapt. Forward rotating shifts, from day to evening to night, rather than counter to it are easier for human adaption.

2.14.3.11 The traditional "standard" 5-day, 8-hour shift is becoming frequently replaced with consecutive 10 or 12-hour shifts, compensated to the worker by more time/days off. The basic 12 hour/day schedule shall be "2-on, 2-off," "3-on, 3 off," or "4-on, 4-off." Three consecutive 12-hour shifts are optimal. Working more than 4 consecutive 12-hour shifts is associated with excessive fatigue and strongly discouraged since it may result in significant impact on performance of duties, mission, and safety.

2.14.3.12 Time zone changes alter or shift natural bodily rhythms and require considerable time to reach new equilibriums as evidenced in the well-known "jet lag" syndrome. Consideration shall be given to allowing for adaptation times to avoid critical decisions in a chronobiologically impaired state. Circadian rhythms affect physical ability, mental alertness, decision making, and overall well-being that can predispose to injury and adversely impact work capacity, quality, and safety.

2.14.3.13 To minimize worker stress and fatigue related to time factors, the following procedures shall be followed:

a. Define the "standard" work period for all operations and tasks, including method of shift rotation if required, as well as breaks and required rest cycles;

b. Clarify responsibilities, work expectations, and desired outcomes for any process or decision;

c. Minimize negative consequences of shifting work times by:

(1) Having employees select preferred shifts consistent with mission needs.

(2) Considering individual circadian rhythms to insure adequate work and sleep-rest cycles.

(3) Allowing adequate time for adaptation and recovery from old to new shift or time zone.

(4) Understanding the "criticality" of the work to evaluate risk of physiological and psychological consequences of chronobiological stress.

d. Defining "critical job categories" and assure that employees assigned to these categories understand the full implications of the work schedule and rest cycles. Educate employees about the importance of adequate rest for safe job performance;

e. Defining "extended" work periods for job categories;

f. Allowing "deviations" from standard maximum work requirements by the following criteria:

(1) Need, urgency, and benefit.

(2) Risk assessment.

(3) Prior anticipation of extended work schedules or deviations from guidelines

shall be noted in position descriptions; and

g. Provide an impartial council (e.g., HMTA or the Agency DASHO) to hear and resolve disagreements related to work schedules, shift work, and rest cycles.

2.14.3.14 Maintain accurate records of work schedules and hours actually worked.

2.14.3.15 Adjustment and application of OEL's to unusual shifts shall be determined by a qualified industrial hygienist using the Brief and Scala model or other acceptable models as described in *Patty's Industrial Hygiene and Toxicology*.

## 2.15 International Travel or Assignment

## 2.15.1 General

2.15.1.1 In offering health services to NASA employees preparing to embark on international travel or assignment, the requirements of this section shall be followed in order to reduce the risk of illness or injury, prevent loss of productivity, and safeguard their health.

2.15.1.2 It is solely the traveler's responsibility to contact the NASA clinic four to six (4-6) weeks prior to scheduled travel departure to allow adequate time for vaccines, if needed.

## 2.15.2 Responsibilities

2.15.2.1 The CHMO shall establish international travel health policy.

2.15.2.2 The CHMO shall maintain a contract to provide medical evacuation and assistance to NASA civil service employees traveling internationally on official government-related business.

2.15.2.2.1 The contract maintained by the CHMO shall include travelers' ability to instantly access destination-specific travel information, travel health alerts, pre-departure checklists, and other resources via the vendor's Web site or Web-page that has been customized for NASA.

2.15.2.2.2 NASA Centers may employ additional medical evacuation/service vendors to assist civil service personnel on official Government foreign travel. Civil service employees who become injured or ill during official Government travel may be eligible for coverage by the Federal Employees Compensation Act and should consult with their Center's injury compensation specialist for assistance as soon as possible.

2.15.2.3 The Director Health and Medical Systems ensures proper execution of clinic travel policy through regular, periodic reviews.

2.15.2.4 Each Center's Foreign Travel Coordinator shall be familiar with the Agency's medical services and evacuation contract so that travelers can be notified of the method of accessing the vendor's Web site.

2.15.2.5 International travel services provided by occupational medical clinics shall be consistent with the current CDC Health Information for International Travel "Yellow Book."

2.15.2.6 The Agency's contract provisions shall also apply to NASA civil service employees who are in the midst of, or have completed, international permanent change of station activities.

## 2.15.3 Process Description

2.15.3.1 NASA OM clinics shall establish policy and procedures for providing travel medicine services for Center personnel going on official Government foreign travel or assignment.

2.15.3.2 NASA OM clinics shall have access to current relevant information on international travel including, but not limited to, the CDC, World Health Organization (WHO) health information for international travel, Travel Health Notices, and the U.S. Department of State.

2.15.3.3 International travel services to be offered shall include the following elements:

- a. General pre-travel briefing and information;
- b. General health risk assessment (An assessment of the employee's potential risk for illness considers any underlying medical problems, immunization history, allergies, current medications, previous travel, and travel destination.);
- c. Immunizations;
- d. Traveler's diarrhea information and advice;
- e. Malaria risk assessment and advice, if appropriate;
- f. Air travel and health information (includes addressing circadian rhythm adjustment);
- g. Destination safety information (e.g., protective and preventative health advice, as appropriate to the destination risks);
- h. Travel kits, in accordance with NASA Center policy;
- i. Pre-travel evaluation of any work-related environmental health issues/concerns, identification of PPE or training needs shall be provided by the employee's appropriate supervisor;
- j. Medical surveillance or job-certification examinations; and
- k. Other sources of health-related information including:

(1) The Web site address for NASA's international medical evacuation and assistance vendor and the name, phone number, and e-mail address for the CHMO's point of contact for employees' assistance with Web site access and Agency assistance before and during travelers' international business travel; and

(2) Post travel follow up scheduling and advice, as required.

2.15.3.4 Centers are authorized to discuss and offer international travelers the CDC required and recommended immunizations for the country of destination.

2.15.3.5 Depending on the destination, pre-travel confirmation of the Tuberculosis (TB) intra-dermal skin test status with Purified Protein Derivative may be required. Centers shall follow the CDC guidance on followup for positive results and post-travel evaluation of skin test status for those who traveled to areas where there are high incidences of TB.

2.15.3.6 Centers are authorized to assemble and issue travel medical kits to NASA employees traveling on official Government business. The instructions and contents of the medical kits shall be determined by the Center medical director.

2.15.3.6.1 A summary of the traveler's past and any current medical history, including allergies, medications, and special diet shall be provided to the traveler in accordance with privacy and confidentiality requirements.

2.15.3.7 Medical services for all non-NASA-related travel are the responsibility of the employee.

2.15.3.8 NASA contractors are responsible for establishing their medical clearance policies and facilitating arrangements with a medical service provider for their employees, in accordance with their contract. Responsibility for international emergency medical services remains with the contractor and contracted employee, as specified in NASA FAR Supplement, Clause 1852.242-78.

2.15.3.9 Services for civil service employees on official Government foreign travel who suffer an injury or illness can be obtained using the Agency's medical evacuation assistance contractor. Examples of these services include medical and dental referrals/assistance, prescription medicine assistance, and local transport to medical facilities. NASA civil service employees who suffer a traumatic injury or occupational illness while in the performance of their official duties may also be eligible for compensation benefits under the Federal Employees' Compensation Act. *All mishaps must be reported in accordance with NPR 8621.1, NASA Procedural Requirements for Mishap Reporting, Investigating, and Recordkeeping.*

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